

IN THE CLAIMS:

1. (canceled) A control system for a household appliance comprising:

an electronic control unit,

means for selecting predetermined first functions of the appliance,

means for storing first function information for controlling execution of said predetermined first functions in response to selections made through said selection means,

means for storing second function information for controlling execution of second functions, said second functions being different from said first functions, and

connection means for interfacing with an external electronic device, said second function information being accessible for enabling selection of said second functions only when said external electronic device is operatively connected to said connection means.

2. (canceled) The control system of claim 1 wherein said electronic control unit comprises memory means, said first function information storing means comprising a first area of said memory means, and said second function information storing means comprising a second area of said memory means accessible by said external electronic device for receiving from said external electronic device data for enabling execution of said second functions.

3. (canceled) The control system of claim 1 wherein said connection means is operatively connectable to said electronic control unit and said external electronic device.

4. (canceled) The control system of claim 3 wherein said connection means comprises an interfacing module mounted on said electronic control unit.
5. (canceled) The control system of claim 1 wherein said electronic control unit comprises a microcontroller having a communication line operatively connectable to said external electronic device.
6. (canceled) The control system of claim 1 wherein said electronic control unit comprises means for transmitting information relating to the operation status of the appliance.
7. (canceled) The control system of claim 32 wherein said external electronic device includes means for receiving information relating to the operating status of the household appliance.
8. (canceled) The control system of claim 1 wherein said external electronic device comprises a display device.
9. (canceled) The control system of claim 8 wherein said external electronic device displays on said display device data relating to the operating status of the household appliance.
10. (canceled) The control system of claim 32 wherein said electronic control unit includes a first clock, and said external electronic device includes a second clock for updating the first clock.

11. (canceled) The control system of claim 1 wherein said external electronic device comprises a personal computer.
12. (canceled) The control system of claim 11 further comprising a data bus operatively connectable to said personal computer and the appliance.
13. (canceled) The control system of claim 1 wherein said external device comprises a remote control and said connection means comprises a signal receiver for receiving signals from said remote control.
14. (canceled) The control system of claim 1 wherein said external electronic device comprises means for storing a management program for executing said second function.
15. (canceled) The control system of claim 14 wherein said management program comprises control routines for avoiding improper programming of the appliance.
16. (canceled) The control system of claim 15 wherein said management program includes as second functions utility functions for operating the household appliance.
17. (canceled) A method for programming an electronically controlled appliance comprising storing a first set of information in a first portion of a memory, and accessing said first portion of said memory to perform first functions, storing a second set of information in a second portion of said memory for enabling said appliance to perform second functions different from said first functions, and executing said second functions only by interfacing an external electronic device with said memory.

18. (canceled) The control system of claim 9 wherein said data includes parameters identifying the progress of a program being performed by the appliance.
19. (canceled) The control system of claim 9 wherein said data includes diagnostic messages for the technical servicing of the appliance.
20. (canceled) The control system of claim 14 wherein said management program comprises a cookbook.
21. (canceled) The control system of claim 14 wherein said management program comprises a database for food preserved within a refrigerator appliance.—
22. (canceled) The method of claim 17 wherein said second functions comprise checking the operation of devices internal to the appliance.
23. (canceled) The method of claim 17 wherein said second functions comprise changing the configuration of heating elements of a cooking appliance during a cooking process.
24. (canceled) he method of claim 33 wherein said second functions include advising when a given food stored in a refrigerating appliance is approaching an expiry date.
25. (canceled) The method of claim 17 wherein said second functions comprise controlling the performance of a washing cycle during scheduled time periods.
26. (canceled) The method of claim 17 wherein said second functions comprise indicating what recipe or recipes can be prepared with a limited number of available ingredients.

27. (canceled) The method of claim 17 wherein said external electronic device comprises means for storing cooking recipes.
28. (canceled) The method of claim 33 wherein said external electronic device includes a display for displaying baking process parameters.
29. (canceled) The method of claim 17 wherein said external electronic device comprises means for designing cooking recipes.
30. (canceled) The method of claim 17 wherein said external electronic device comprises means for adjusting a recipe as a function of the number of people to be served.
31. (canceled) The method of claim 17 wherein said external electronic device comprises means for managing purchase lists of foodstuff.
32. (canceled) An appliance control system for use with a household appliance that includes an appliance control panel, the system including:
- A. an electronic control unit for controlling the operations of an appliance, the electronic control unit containing stored first information for controlling predetermined first functions that are selectable using the appliance control panel and stored second information for controlling predetermined second functions that can not be selected using the appliance control panel;

- B. selection means for supplying to the electronic control unit data that selects one or more of the first functions and provides related parameter values;
- C. connection means for interfacing with an external electronic device, the connection means transferring from the external electronic device to the electronic control unit data that selects one or more of the second functions and provides related parameter values,

wherein the electronic control unit operates the appliance in accordance with the selected one or more first functions based on the stored first information and the data supplied by the selection means or in accordance with the selected one or more second functions based on the stored second information and the data supplied by the external electronic device through the connection means.

33. (canceled) A method for programming an electronically controlled appliance that includes a control panel, the method including the steps of:

- A. storing in a first portion of memory a first set of information for operating the appliance in accordance with one or more first functions that correspond to operations that are selectable using the control panel;
- B. executing the first functions by accessing the first portion of memory;

- C. storing in a second portion of memory a second set of information for operating the appliance in accordance with one or more second functions that correspond to operations that are not selectable using the control panel; and
 - D. executing the second functions in accordance with data provided by interfacing an external electronic device with the second portion of the memory.
34. (canceled) A control system for a household appliance, the control system including:
- A. a memory that includes a first section for storing programs and information for a first set of pre-programmed appliance functions and a second section for storing programs and information for a second set of pre-programmed appliance functions;
 - B. a control panel that is located on the appliance and includes one or more knobs or buttons or both that are activated to produce signals that select and provide associated parameter values for the first set of pre-programmed appliance functions;
 - C. a controller that communicates with the appliance and produces data signals that select and provide associated parameter values for the second set of pre-programmed appliance functions; and
 - D. appliance control means that
 - i. responds to the signals produced by the control panel by utilizing the programs and information included in the first section of the memory

to control the operations of the appliance in accordance with the selected first function and the associated parameter values, and

ii. responds to the data signals provided by the controller by utilizing the programs and information included in the second section of the memory to control the operations of the appliance in accordance with the selected second function and the associated parameter values.

35. (canceled) The control system of claim 34 wherein the appliance control means includes a memory for storing the programs and associated information, the memory including a first area for storing the programs and information associated with the pre-programmed first set of appliance functions and a second area accessible by said controller for storing the programs and information associated with the pre-programmed second set of appliance functions, the second area further retaining data provided by the controller.

36. (canceled) The control system of claim 34 wherein

the appliance control means further includes transmitting means for transmitting status information associated with the current operating status of the appliance, the transmitting means transmitting the status information to the controller, and

the controller includes receiving means for receiving the status information and a display for displaying certain or all of the status information.

37. (canceled) The control system of claim 34, wherein the appliance control means includes a first clock, and the controller includes a second clock, the controller providing information from the second clock to update the first clock.

38. (canceled) The control system of claim 34, wherein the controller includes a remote control device and the appliance control means includes a receiving means for receiving signals from the remote control.

39. (canceled) The control system of claim 36 wherein the status information includes parameters identifying the progress of the function being performed by the appliance.

40. (canceled) The control system of claim 36 wherein said status information includes diagnostic messages for the technical servicing of the appliance.

41. (canceled) The control system of claim 34 wherein the control panel provides information relating to the selected function from the first set of functions by the activating of the knob, buttons or both, and the controller provides information relating to the selected function from the second set of functions by providing associated data signals.

42. (canceled) A method of operating a household appliance, the method including the steps of:

- A. activating knobs or buttons or both on an appliance control panel to produce signals that select and provide associated parameter values to control the operations of the appliance in accordance with a first set of pre-programmed appliance functions; and
- B. providing data to a controller that communicates with the appliance and produces data signals that select and provide

associated parameter values to control the operations of the appliance in accordance with a second set of pre-programmed appliance functions that cannot be selected or controlled by the signals produced by activating the knobs or buttons or both of the control panel; and

C. operating the appliance

in accordance with the selected first function and associated parameters based on the signals produced by the control panel; or

in accordance with the selected second function and associated parameters based on the signals produced by the controller.

43. (canceled) The method of claim 42 further including the steps of:
- providing information relating to the selected function from the first set of functions by the activating of the knob, buttons or both, and
- providing information relating to the selected function from the second set of functions by providing associated data signals.

44. (new) A control system for a household cooking appliance, the control system including:

- C. a memory that includes a first section for storing programs and information for a first set of pre-programmed appliance functions associated with basic cooking functions and a second section for storing programs and information for a second set of pre-programmed appliance functions associated with non-basic cooking functions of
 - dynamically changing the heating element configuration by selecting one or more heating elements for use at a given time,
 - dynamically selecting among heating sub-systems to select the type or types of heating in use at a given time;
- D. a control panel that is located on the appliance and includes one or more knobs or buttons or both that are activated to produce signals that select and provide associated parameter values for the first set of pre-programmed appliance functions;
- C. a controller that communicates with the appliance and produces data signals that select and provide associated parameter values for the second set of pre-programmed appliance functions in accordance with user input; and
- D. appliance control means that
 - i. responds to the signals produced by the control panel by utilizing the programs and information included in the first section of the memory

to control the operations of the appliance in accordance with the selected first function and the associated parameter values, and

ii. responds to the data signals provided by the controller by utilizing the programs and information included in the second section of the memory to control the operations of the appliance in accordance with the selected second function and the associated parameter values.

45. (new) The control system of claim 44 wherein the system selects among heating sub-systems by selecting for use at a given time one or more of conventional, convection, microwave, infrared, steam sub-systems.

46. (new) The control system of claim 44 wherein the second functions dynamically change the configurations of the heating elements and/or select the type or types of heating sub-systems during a cooking process.

47. (new) The control system of claim 44 wherein

the appliance control means further includes transmitting means for transmitting status information associated with the current operating status of the appliance, the transmitting means transmitting the status information to the controller, and

the controller includes receiving means for receiving the status information and a display for displaying certain or all of the status information.

48. (new) The control system of claim 44, wherein the appliance control means includes a first clock, and the controller includes a second clock, the controller providing information from the second clock to update the first clock.

49. (new) The control system of claim 44, wherein the controller includes a remote control device and the appliance control means includes a receiving means for receiving signals from the remote control.

50. (new) The control system of claim 44 further including supplying status information to the controller, the status information including parameters that identify the progress of the function being performed by the appliance.

51. (new) The control system of claim 7 wherein said status information includes diagnostic messages for the technical servicing of the appliance.

52. (new) A control system for a household washing appliance, the control system including:

A. a memory that includes a first section for storing programs and information for a first set of pre-programmed appliance functions associated with basic washing functions and a second section for storing programs and information for a second set of pre-programmed appliance functions associated with non-basic washing functions of

dynamically selecting the time or conditions for starting or continuing a washing operation or a cycle of a washing operation,
dynamically selecting temperatures, timing and/or duration for one or more of the cycles,

B. a control panel that is located on the appliance and includes one or more knobs or buttons or both that are activated to produce signals that select and provide associated parameter values for the first set of pre-programmed appliance functions;

C. a controller that communicates with the appliance and produces data signals that select and provide associated parameter values for the second set of pre-programmed appliance functions in accordance with user input; and

D. appliance control means that

i. responds to the signals produced by the control panel by utilizing the programs and information included in the first section of the memory to control the operations of the appliance in accordance with the selected first function and the associated parameter values, and

ii. responds to the data signals provided by the controller by utilizing the programs and information included in the second section of the memory to control the operations of the appliance in accordance with the selected second function and the associated parameter values.

53. (new) The washing appliance of claim 52 wherein the dynamic selection of the time for washing is selected to wash at low-cost energy times.

54. (new) A method of operating a household appliance, the method including the steps of:

- D. activating knobs or buttons or both on an appliance control panel to produce signals that select and provide associated parameter values to control the operations of the appliance in accordance with a first set of pre-programmed appliance functions; and
- E. providing user data to a controller that communicates with the appliance and produces data signals that select and provide associated parameter values to control the operations of the appliance in accordance with a second set of pre-programmed appliance functions that cannot be selected or controlled by the signals produced by activating the knobs or buttons or both of the control panel, the second set of functions being associated with the dynamic selection of customized methods of operation, timing of an entire operation or the respective cycles of the operation, and/or temperatures and/or duration of the respective cycles of operation; and
- F. operating the appliance

in accordance with the selected first function and associated parameters based on the signals produced by the control panel; or
in accordance with the selected second function and associated parameters based on the signals produced by the controller.

55. (new) The method of claim 54 wherein the step of providing data further includes providing data to dynamically select
heating element configurations,
among heating sub-systems;
times or conditions for starting or continuing washing operations or given cycles of operation, and/or
temperatures, timing and/or duration of cycles of operations.